REMARKS

The Examiner's attention to the present Application is greatly appreciated. Applicant recognizes that the number of claims and diversity of technology required extraordinary effort by the Examiner. Notwithstanding, the Examiner provided an extremely thorough analysis of the claims and an exemplorary discussion regarding the prior art.

In the Office Action of January 12, 2007, the Examiner rejected all claims, Claims 1 - 20, under 35 U.S.C. § 103. This rejection is addressed in the section below.

Claims 1, 4, 7, 11 and 15 have been amended to more clearly identify various aspects of Applicant's invention. Claim 1 has been amended to clarify the conveyor structure for transporting products through the conditioning tunnel. Specifically, the motor is positioned exterior to the pressurizeable stage with shafts projecting from exterior to the pressurizeable stage through holes into the pressurizeable stage. Support for this amendment can be found on pages 13 and 14 of the Specification. Claim 4 has been amended to clarify that the conditioning tunnel including pressurizeable stage has a substantially quadrilateral cross-section. Support for this amendment can be found throughout the entire Specification. Claim 7 has been amended to reflect that the conditioning system includes a source of cleaning fluid, as opposed to merely being *capable* of connecting to a source of cleaning fluid. Support for this amendment can be found at the top of page 19. Claim 11 has been amended to reflect that the controller automatically controls the conveyor system to move products upline or downline depending on temperature measurements. Claim 15 has been amended to clarify that the controller automatically moves the microwave field depending on temperature measurements. Support for the amendments to Claims 11 and 15 can be found on page 19.

In addition to the above amendments, Applicant has made several non-substantive amendments. For example, the preamble of Claim 1 has been amended to be consistent with the remaining claims. The limitation directed to the pressurizing means for controlling the pressure of a stage has been moved to below the limitation describing the pressurizeable stage for clarity. This change has been made within each of the independent Claims 1, 4, 7, 11 and 15. Similarly, Applicant has amended the first limitation of each independent claim to reflect that the tunnel is subdivided into one or more consecutively aligned stages, as opposed to a plurality of consecutively aligned stages.

As a result of the above amendments, the claims are believed to be in condition for allowance.

REJECTION UNDER 35 U.S.C. § 103

Each of the claims, Claims 1 - 20, have been rejected under 35 U.S.C. § 103 in view of some form of combination between *Ruozi* (U.S. Patent No. 6,039,991); *Chitre* (U.S. Patent No. 4,687,895); *Kenyon* (U.S. Patent No. 3,961,569); and *Savi* (U.S. Patent No. 5,342,726).

Each of the independent claims include a particular limitation not disclosed or suggested in the prior art. Accordingly, for simplicity Applicant provides below a brief discussion regarding the cited references, and then separately addresses the basis for patentability for each independent claim and corresponding dependent claims.

The Cited Prior Art

Ruozi discloses a conditioning system for sterilizing products. As ably described by the Examiner, the conditioning unit system includes a tunnel having one or more sidewalls, an entrance, an exit, a subdivision into a plurality of stages, a pressurizing means for controlling pressure in at least one stage, heating means for producing a microwave field within a stage, a conveyor system for transporting products, and a temperature sensor for measuring the temperature of products.

Chitre also discloses a microwave heating system with conveyor including a plurality of separate heating zones. In addition, *Chitre* discloses a system that appears to include a substantially rectangular cross-section.

Kenyon discloses an apparatus for continuous microwave sterilization of food including a microwave heating section and a holding section.

Savi discloses a machine for sterilizing food in cylindrical containers. In addition, *Savi* discloses a strange and complicated conveyor means including a plurality of wheels for transporting products through a conditioning tunnel.

As explained in greater detail below, each of these references, even in combination, do not disclose or suggest the features claimed by Applicant.

APPLICANT'S CLAIMED INVENTION

Claims 1 - 3

Claims 1 - 20 are directed to a conditioning system for sterilizing products including a tunnel having an entrance, an exit and one or more stages for conditioning food. Of the stages, at least one pressurizeable stage is provided which also includes heating means including a series of magnetrons for creating a microwave field for heating products. A conveyor is for provided for moving products from upline to downline through the conditioning unit.

Independent Claim 1 also includes the limitation that the conditioning system includes a plurality of wheels located within the pressurizeable stage, but the motor is positioned exterior to the pressurizeable stage. Shafts are provided to project through holes formed in the pressurizeable stage sidewalls to connect the motor and wheels, and activation of the motor causes the wheels to rotate and products to be moved upline to downline through the tunnel.

None of the prior art references disclose or suggest placing the motor exterior to the pressurizeable stage or including shafts which project through holes formed in the pressurizeable stage sidewalls.

Turning to the art cited by the Examiner, on page 7 of the recent Office Action, the Examiner contends that *Savi* discloses these features. More specifically, the Examiner indicates that Fig. 1 of *Savi* shows chains 3 and 3' connected to motor and wheels in which a shaft projects through holes in the tunnel's sidewalls to engage the wheels. Applicant disagrees with this assessment.

First, *Savi* does not suggest a conditioning system including a pressurizeable stage. The construction appears to be entirely open to the environment, and thus there is no disclosure or suggestion of providing shafts through a sidewall of a pressurizeable stage. Instead, *Savi* appears to suggest shafts that appear to go through brackets. However, as disclosed in Figs. 1, 3 and 8, there is no suggestion of passing a shaft through any type of sidewall.

Accordingly, none of the prior art provide any disclosure or suggestion for placing a motor exterior to a pressurizeable stage, placing wheels interior to a pressurizeable stage and connecting the two by holes formed in the pressurizeable stage sidewalls. Because these features are nowhere disclosed or suggested, Claim 1 and its dependent Claims 2 and 3 are believed allowable.

Claims 4 - 6

Claim 4 and its dependent Claims 5 and 6 include the limitation that the conditioning system includes a tunnel, including a pressureizable stage, that has a substantially quadrilateral cross-section.

On page 5, paragraph 1 of the Examiner's Office Action, the Examiner correctly recognizes that *Chitre* discloses in Figs. 1 and 4 a conditioning system including a substantially rectangular cross-section. However, *Chitre* does not suggest a conditioning system including a pressureizable stage having a rectangular cross-section. Instead, systems including a pressureizable chamber typically include a circular cross-section. The circular cross-section was adopted because mechanical stress and strain in pressure vessels is best distributed in spherical or cylindrical structures.

Meanwhile, Applicant discovered that a quadrilateral construction provides a more uniform environment for microwave heating products including within a pressureizable chamber. However, this suggestion is not in the prior art. To the contrary, *Ruozi* does not appear to provide any suggestion as to the tunnel's shape. *Savi* discloses an open environment, non-pressureizable structure wherein the tunnel appears to be five-sided. Meanwhile, both *Kenyon* and *Chitre* appear to describe conditioning tunnels which are quadrilateral in cross-section, but there is no suggestion to provide a pressureizable stage, or that a pressureizable stage should be quadrilateral.

Because Claims 4 and its dependent Claims 5 and 6 include the limitation of a tunnel including a pressureizable stage which has a quadrilateral cross-section, which is not disclosed or suggested in the prior art, these claims are believed allowable.

Claims 7 - 10

Original Independent Claim 7 and its dependent Claims 8 and 9 have the limitation that the tunnel include an inlet for receipt of cleaning fluids and an outlet for release of cleaning fluids so as to allow the cleaning of the interior of the tunnel.

In response, on page 5 of the Examiner's Office Action, the Examiner indicated that *Chitre* disclosed an apparatus including an inlet *capable* of introducing a cleaning fluid and an outlet *capable* of allowing cleaning fluid to drain. In reality, *Chitre* discloses inlets for receipt of a gas providing a gaseous environment and a discharge port for release of the gas. There is no suggestion that the gas be provided for cleaning. Moreover, it is questionable whether these inlets and outlets could be used for the introduction and release of cleaning fluids.

Notwithstanding whether the inlets or outlets in *Chitre* are capable of being used for the introduction and release of cleaning fluids, Applicant has amended Claim 7 to include the specific language that the conditioning system include a source of cleaning fluid, and that the source be connected to the inlet for the introduction of cleaning fluid into the pressureizable stage. Plainly, this limitation is not disclosed or suggested in the cited prior art. Accordingly, Claim 7 and its dependent Claims 8 - 10 are believed allowable.

Claims 11 - 14

Claim 11 has been amended to include the limitation that the conditioning tunnel include a controller connected to the conveyor and a temperature sensor so that the controller can automatically move products upline or downline depending on temperature measurements. As more thoroughly explained on page 19 of the Specification, Applicant has invented a conditioning tunnel that provides more accurate heating control products by providing for the actual controlled movement of products upline or downline depending on temperature measurements. For example, where a product has heated more quickly than anticipated, the controller will cause the product to be moved from the microwave field more quickly. Alternatively, where a product has not been heated sufficiently, the controller may utilize temperature measurements to decide to move a product more directly into a microwave field. This claimed feature is nowhere suggested in the prior art.

The Examiner contends that *Ruozi* and *Chitre* disclose an apparatus which is "fully capable" of moving products upline or downline through the tunnel depending on temperature measurements of the products. Respectfully, Applicant disagrees with this determination. Specifically, *Chitre* suggests using temperature measurements for determination as to whether to alter power to the magnetrons, but there is no suggestion that the controller can automatically move products upline or downline depending on temperature measurements. Meanwhile, Columns 5 and 7 of *Ruozi* suggests that the conditioning system includes a controller, referred to as a PLC, and that the system includes infrared thermometers to monitor temperatures of the products. However, there is no suggestion that the temperature sensor is connected to the controller. Moreover, there is no suggestion in *Ruozi* that the controller causes products to automatically move upline or downline depending on temperature measurements of the products. Notably, Applicant has added the word "automatically" into the claim to clarify that the controller automatically makes adjustments to the movement of products upline or downline depending on temperature measurements, as opposed to a pre-programmed non-adjusted schedule that appears to be suggested by *Ruozi*.

Claims 15 - 20

The Examiner rejected previous Claims 15 - 20 in view of *Chitre* contending that *Chitre* was capable of altering the microwave field within the conditioning tunnel depending on temperature measurements. Admittedly, Col. 7 of *Chitre* states that the power supply is automatically regulated to maintain temperature and to alter temperature once a selected temperature is achieved. Strangely, the specification of *Chitre* nowhere refers to a temperature sensor. However, this feature is included in the claims of *Chitre*. Thus, a broad reading of *Chitre* reflects that it does indeed suggest a controller connected to magnetrons and a temperature sensor for automatically altering the power to the magnetrons based on temperature measurements. However, there is no suggestion in *Chitre* or the remaining references that the magnetic field be moved, such as by actively moving or tilting the magnetrons, or by passively moving the magnetic field depending on temperature measurements. This feature is nowhere suggested in any other prior art references, alone or in combination. Accordingly, Claim 15 and its depending Claims 16 - 20 are believed allowable.

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CONCLUSION

As a result of the above amendments, the claims in this case are believed to be in condition for allowance. If there are any remaining issues that need to be resolved, it is requested that a telephone call be placed to the undersigned.

Respectfully submitted,

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